#### PRE BOARDING CHECKS

- 1. Appropriate aircraft, inspection/checks completed. *Tow-bar and all covers removed!!!*
- 2. IM SAFE checks completed.
- NOTAMs & weather checked.
- 4. Weight & Balance checked.
- 5. Performance calculations checked.
- 6. Flight planning completed.
- 7. Up to date charts available and tracks marked as appropriate.
- 8. Check lists and logging sheets available.
- 9. Location and direction safe for start up and taxi.
- 10. Screen and windows clean.
- 11. Sufficient fuel for planned flight.
- 12. Fuel taps OPEN.
- 13. All switches in OFF position.
- 14. Flaps retracted.
- 15. Keys accessible NOT in master switch.
- 16. Passenger briefed.

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#### PRE START UP CHECKS

- 1. Brakes ON.
- Area / direction CLEAR & SAFE.
- Harnesses and doors SECURE.
- 4. Loose Items STOWED.
- 5. Headsets ON.
- 6. Carburettor heat SET. (ON or OFF to suit conditions)
- 7. Heater SET (as required)
- 8. Oil flap SET (CLOSED for rapid warm up)
- 9. Throttle FULLY CLOSED (friction set)
- 10. Flaps NEUTRAL.
- 11. Trim Full SLOW.
- 12. Wing tanks Both ON.
- 13. Main fuel tap ON.
- 14. Magnetos OFF.
- 15. Master switch OFF.
- 16. All power switches OFF.

#### ENGINE START

- 1. Master switch - ON.
- Ensure altimeter initialises correctly (adjust to zero/check movement.) 2.
- 3. Hobbs reading - RECORD.
- 4. Low Fuel Warning Lamp - TEST.
- 5. Boost pump – ON (check pressure rises then OFF when stable)
- 6. Throttle and choke – AS REQUIRED.
- 7. Radio, Transponder and Gyro displays - OFF.
- 8. Strobes - ON.
- 9. Area – ALL CLEAR.
- 10. Stick - FULLY BACK!
- 11. Magnetos - ON.
- **Shout** "CLEAR PROP" pause 2 to 3 seconds. 12.
- 13. Engine – START – monitor oil pressure & set 2000 rpm when soft start period ends.
- 14. Choke – OFF (if used) control RPM during removal.
- 15. Power switches - Switch ON the following:
  - Radio,
  - Transponder,
  - Gyro,
  - GPS supply if required.
- 16. Landing lights and boost pump - CHECK OFF
- 17. Radio – ON Check / Set: Active & Standby frequencies and Vol setting (15).
- 18. Transponder – ON Check / Set: mode "STANDBY" & ACTIVE squawk to 7000.
- 19. Radio - CALL & RECORD Runway and pressure setting.
- 20. Set QNH and runway heading on Gyro and QFE or QNH as appropriate on Altimeter.
- 21. Log brakes off time.

#### TAXI TO RUN UP AREA.

- 1. Speed – Appropriate for conditions and surroundings, MAX 8kts (Brisk walking pace).
- 2. Controls - DEFENSIVE POSITIONS.
- 3. Check - BRAKES, STEERING, SLIP BALL, COMPASS.

### PRE FLIGHT (VITAL ACTIONS)

- 1. Park IN TO WIND.
- Brakes ON.
- 3. Throttle 2000 RPM
- 4. Controls CHECK (full & free, correct sense, including flaps)
- 5. Harnesses and doors CHECK.
- 6. Loose items STOWED.
- 7. Flight instruments CHECK.
- 8. Engine Instruments CHECK.
- 9. Magnetos CHECK (3800 to 4000 RPM)
- 10. Minimum Idle CHECK (smooth running, max 1600 RPM then return to 2000 RPM)
- 11. Fuel contents CHECK (contents and tank selection as required)
- 12. Main fuel tap CHECK ON.
- 13. Boost pump ON (monitor pressure during switch on)
- 14. Flaps SET.
- 15. Trim SET
- 16. Transponder ACS 7000
- 17. Landing Lights ON.
- 18. Oil flap SET (open to suit ambient temperature)
- 19. BRS REMOVE safety pin
- 20. Taxi to hold point.

#### PRE TAKE OFF FINAL CHECKS AT HOLD POINT AND TAKE OFF ROLL

- 1. Check Fuel, Flap, Trim, Transponder, Oil flap (Part Open) Landing Lights, Ts & Ps.
- Check BRS armed.
- 3. Check all clear for take off.
- 4. Log take-off time.
- Select Heading screen
- 6. Call "Lining up runway xx" pause.
- 7. Double check final approach.
- 8. Line up.
- 9. Assess wind.
- 10. Select abort point,
- 11. Check brakes OFF.
- 12. Check Full power during take off roll (min 5000 RPM)
- Check ASI alive.
- Control nose attitude.

#### AFTER LIFT OFF

- Monitor and control air speed before and during climb.
  - MINIMUM 55kts BEFORE climb.
  - 55 kts in climb for best AOC (V<sub>x</sub>)
     Note: Unless maximum performance is required for obstruction clearance it is far safer to climb out at 65 knots rather than Vx.
- 2. Flaps NEUTRAL at 200 feet, then climb out at 65 kts for best ROC (Vy) *Note:* Unless maximum performance is required climb out at 75 80 knots rather than Vy.
- 3. Engine temperatures and pressures CHECK within limits, regulate with oil flap as required.
- 4. Boost pump OFF above 2000 feet AGL (observe fuel pressure, especially if using a high power setting, be prepared to turn back on)

#### ON ROUTE: - FREDA - CHECKS

- Fuel Used, remaining, endurance.
- Radio Active and standby frequencies set as required.
- Engine Temperatures and pressures healthy, regulate oil temperature with oil flap.
- Direction Compass heading, or ground track from HORIS as appropriate.
- Altimeter Correct pressure set, maintaining planned altitude.

#### AIRFIELD APPROACH

- 1. Fuel CHECK contents sufficient and tank(s) selected.
- 2. Radio SET to airfield frequency.
- 3. Call for airfield information.
- 4. Altimeter SET to airfield QFE.
- 5. DI SET to runway heading.

#### OVERHEAD JOIN

- Boost pump ON before descending below 2,000'.
- 2. Fuel sufficient and tank selected.
- 3. Carburettor heat To suit conditions.
- 4. Oil flap To suit conditions.
- 5. Call "Dead-side, descending for runway xx"
- 6. Look out for, give way to and integrate with circuit traffic.
- 7. Call "Joining x-wind for runway xx"

#### DOWNWIND

- 1. Make downwind call, abeam upwind threshold.
- 2. **LOOK-OUT!** Monitor activity in circuit/runway Visual and radio traffic.
- Down-wind checks: BFFICAWS -
  - Brakes, firm and OFF.
  - Fuel, Sufficient for a go around, boost pump on, pressure healthy.
  - Flaps, check and consider.
  - Instruments, Flight and engine, Ts & Ps healthy.
  - Carburettor heat, CHECK set as required for conditions.
  - Airspace. Check and adjust for traffic.
  - · Wind. Check and consider.
  - SecurityHarness & Hatches, secure.
- Use drift, windsock and other indicators to estimate relative wind speed and direction and determine type of approach to be used.
- 5. 3800 4500 RPM clean (around 70 90kts) dependent on circuit traffic, trim. Maintain height and slow to 65 75 kts abeam downwind threshold

### BASE LEG

- 1. Reduce power to approx 3000 RPM and raise nose to maintain level flight.
- 2. Flaps set stage 1 once below  $V_{FE}$  (83 kts).
- 3. Maintain level flight and allow speed to reduce to 60 65 kts.
- 4. Plan descent, (glide or powered) to approx 600 700' before BASE to FINAL turn.

### **FINAL**

- Make FINAL call.
- 2. Power as required for approach type.
- 3. Speed -50 55 kts or as required for glide, (flap limiting speed of 83kts.)
- 4. Flaps SET stage 2 as required once field is assured.
- 5. At 200' Clear to land, stable approach? **Be prepared to GO AROUND if in any doubt!**
- 6. 45 50 kts over threshold.
- 7. Fully held off landing, with a nose high attitude at minimum speed, subject to wind.
- 8. Keep nose-wheel off ground as long as possible!

#### RUNWAY CLEAR CHECKS

- 1. Make runway vacated call.
- 2. Log landing time.
- Log flight time from VSI.
- 4. Flaps RETRACT (neutral).
- 5. Trim Full slow.
- 6. Boost pump OFF.
- 7. Landing Lights OFF.
- 8. Oil flap As required.
- 9. BRS REPLACE safety pin.

#### PRE SHUTDOWN

- 1. Brakes ON (Log time)
- Power switches ALL (EXCEPT STROBES!) OFF.
- 3. Magneto CHECK at 2000 RPM.

#### SHUTDOWN

- 1. Magneto 1 OFF at 2000 RPM.
- 2. Throttle to Idle, magneto 2 OFF, at minimum revs, do not sustain low revs.
- 3. Strobes OFF.
- 4. "Low Fuel Warning Lamp" TEST.
- 5. Hobbs meter reading RECORD.
- 6. Master switch OFF, remove key.
- 7. Return keys, do not put in your pocket!!!
- 8. BRS DOUBLE CHECK safety pin is securely in place.
- 9. Secure aircraft facing into wind.
- 10. Secure controls as required.

### FORCED LANDING SHUTDOWN

- T Throttle closed
- I Ignition (magnetos) OFF
- F Fuel OFF
- F Flaps DEPLOYED
- S Security, Harnesses Hatches

### **EXTREME MANOEUVRE**

- **H** Height sufficient
- A Airframe (Flaps and trim set)
- **S** Security and loose items
- **E** Engine Temps and Pressures
- L Location (ABC)
- L Lookout